

FIG. 1A

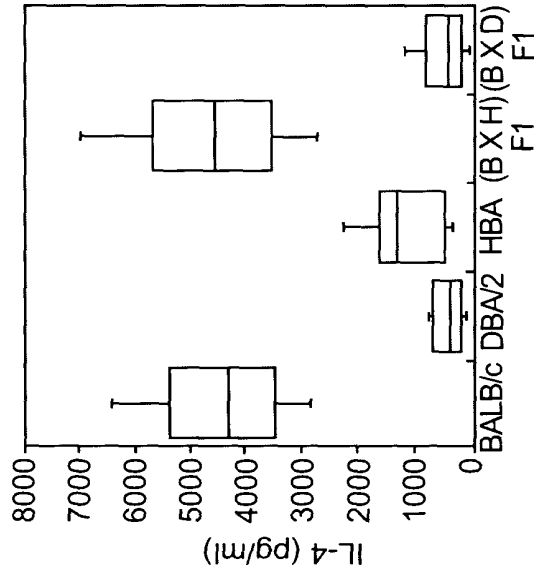


FIG. 1C

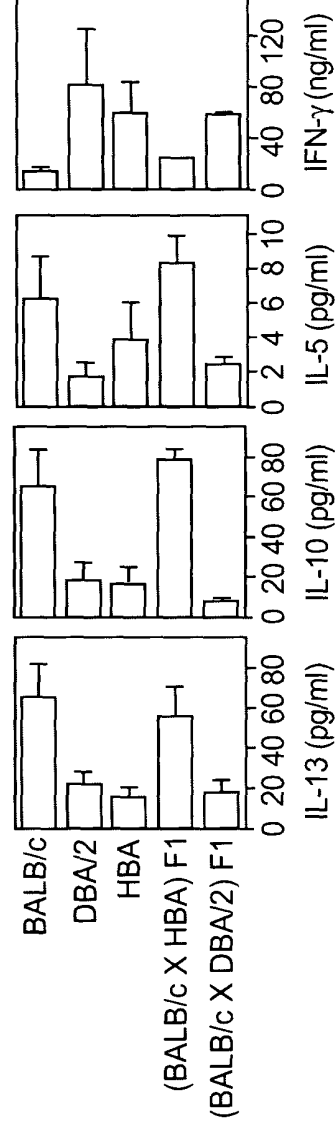
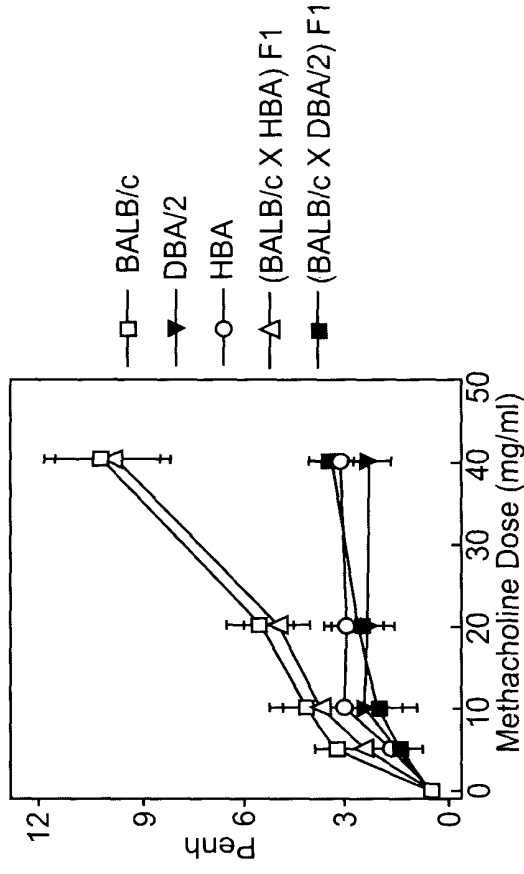


FIG. 1B



FIG. 3C

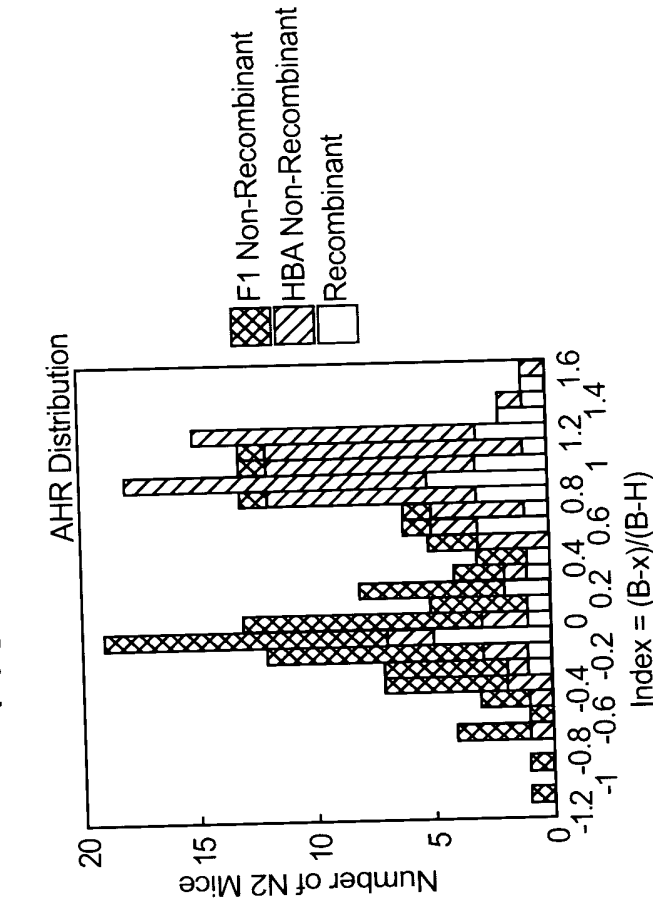


FIG. 3A

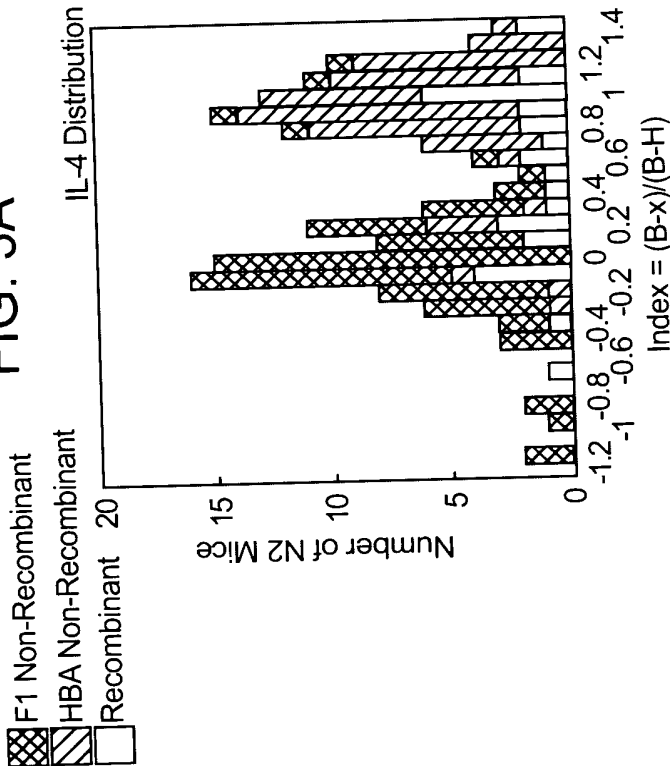


FIG. 3D

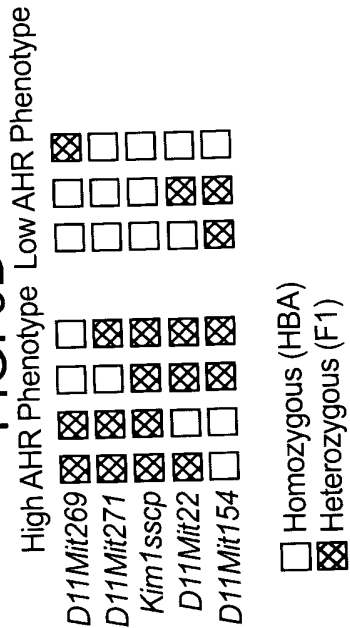


FIG. 3B

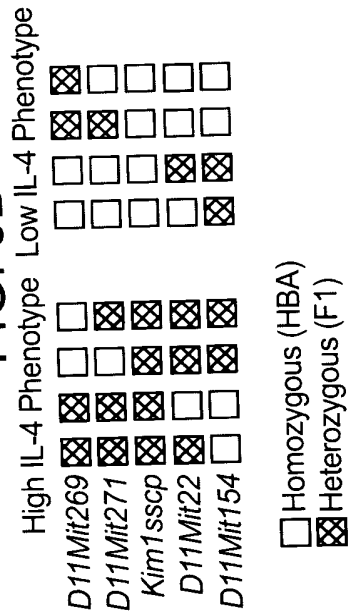
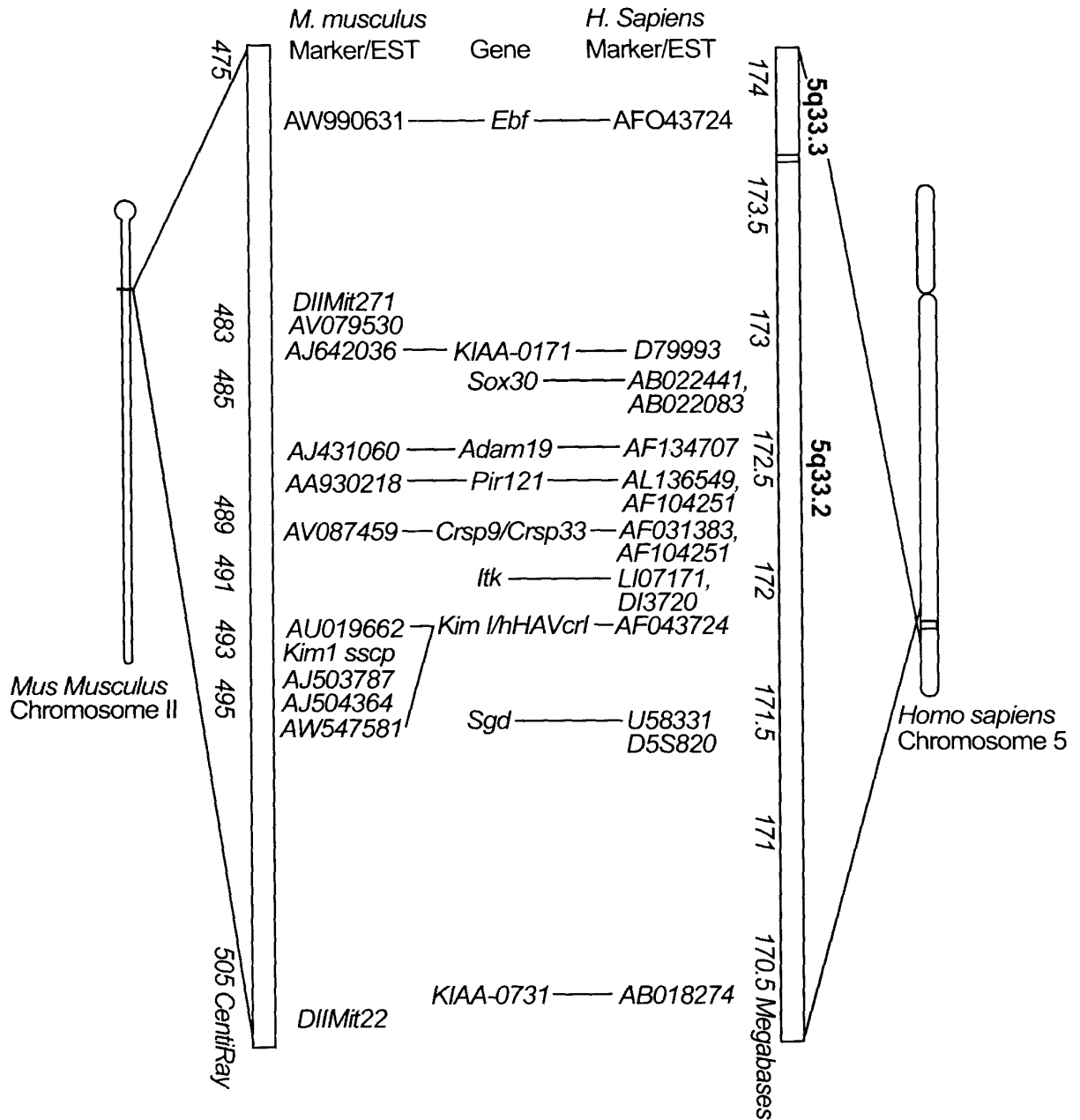


FIG. 4



△

Mouse	TIM-1	M-NQIQVFTSGLILLPLPGVDSYVEKGVGHVPVTLPCVSTYR-G-TTITCWGRGQCSACQNTLIWNGHRVTVYQSSRYMLKGHTISEQDVSLTIEN
Mouse	TIM-2	M-NQIQVFTSGLILLPLPGVDSYVEKGVGHVPVTLPCVSTYRHL-GGLVPMCWGLCEFRHVCIRSLIWTNGVTVTHDRNSRYOLKGNISEGVSLTIEN
Mouse	a2-11	MFGSLTINCVLILQLILARSLEDGYKVEGKNAYLPCSYILPSTGTLVPMCWGKGFCEWSCQINELIRTDERNVTVYQSSRYOLKGDINKEDVSLTIEN
Mouse	TIM-1	SVESDGLKCCRVEIIPGMFNQKVFISLQVKPEIPTPPPTRPPTATGRPTTISTRSTHVPTSIKRVSTSTPPTSTHTMTHKPEPTTFCPHHTTAETV
Mouse	TIM-2	TMVGDGPGYCCVWEIPGAFHH-VDYMLEVKPEISTSPTRPT-----ATGRPTTISTRSTHVPTSTRVSTSTSPPTAHTELLKPEATTEMPOQTAETV
Mouse	a2-11	VTLDPHGHTCCRIQFPGINDKLELKLK-----AKVTEAQTAFG-----DSLTAEPRLTITERN
Mouse	TIM-1	GIPSHPTDWNQIVTSSGDTWSNHTETAIIPPKPKQNPTKGFVVGICIAA-LILLILIVSTVAITRYIIMKRKSAISLWAFRVSKIEALQNAVWVSRPED
Mouse	TIM-2	ETLPSTPADWHTVNTSSDDPDNDNTETVPPKPKQNLKGFVVGISIAA-LILLILIVSTVITRYIMKRKSESLSFVAFTPKIGASPKKVVETRQED
Mouse	a2-11	GSETQQLVTILHNNGTKISTWDEIK-----DSGETIRTAIHIGVGSACILALILIGVLILKWYSCKKKILSSLSLITLANLPFGCLANAGAVRIRSEE
Mouse	TIM-1	NIYITVEDRA-----
Mouse	TIM-2	QVNIIEDHETPEDES-----
Mouse	a2-11	NIYITIEENVYEVENSNEYCYVNSQQPS

FIG. 5C

TIM-1 Variants

1	MNQIQVFISGLILLPGAVDSYVEVKGVPVTL	PCTYSTYRGITTCWGRGQCPSSACQNTLIW	TNGHRVTYQKSSRYNLKGHI	SEGDVSLTIENSVE	HBA
1	MNQIQVFISGLILLPGVDSYVEVKGVPVTL	PCTYSTYRGITTCWGRGQCPSSACQNTLIW	TNGHRVTYQKSSRYNLKGHI	SEGDVSLTIENSVE	BALB/c
100	SDSGLYCCRVEIPGWFNQKVTFSLQVKPEI	PTRPPTTRPTTRPTATGRPTTISTRSTHVPT	STRVSTSTPPTSTHTWTHKPEPTTFC	-----	HBA
100	SDSGLYCCRVEIPGWFNQKVTFSLQVKPEI	PTRPPTTRPTTRPTATGRPTTISTRSTHVPT	STRVSTSTPPTSTHTWTHKPEPTTFC	PHETTAEVTGIP	BALB/c
200	---PTDMNGTVTSSGDTWSNHTEAIPPGK	PQKNPTKGFYVGICIAALLLLLVSTVAITR	YILMKRKSASLSVVAFRVSKIEALQNA	AAVVH	HBA
200	SHTPTDMNGTVTSSGDTWSNHTEAIPPGK	PQKNPTKGFYVGICIAALLLLLVSTVAITR	YILMKRKSASLSVVAFRVSKIEALQNA	AAVVH	BALB/c
300	VEDRP	HBA			
300	VEDRP	BALB/c			

A2-11/TIM-3 Variants

1	MFSGLTNCVLLLLQLLLARSLENANVFE	VGKNAYLPCSYTIS	TPGALVPM	CMWKGFCPWSQCTNELLRTDERNV	TYQKSSRYQLKGD	LKNGDVSLIIKN	HBA
1	MFSGLTNCVLLLLQLLLARSLE	DGKKVEVGKNAYLPCSYTIS	TPGALVPM	CMWKGFCPWSQCTNELLRTDERNV	TYQKSSRYQLKGD	LKNGDVSLIIKN	BALB/c
100	VTLDDHGTCCRIQFPGLMNDKKLELKLDI	KAAKVTPAQT	AHGDSTTASPR	TLTTERNGSETQTLVTLHNNNGTKIST	WADEIKDSGETIR	TAIHIGVGV	HBA
100	VTLDDHGTCCRIQFPGLMNDKKLELKLDI	KAAKVTPAQT	AHGDSTTASPR	TLTTERNGSETQTLVTLHNNNGTKIST	WADEIKDSGETIR	TAIHIGVGV	BALB/c
200	SAGLTALALIIGVLILKWYSCKKKLSLSL	ITLANLPPGGLANAGAVRIRSEENI	YTIENNV	YEVENSN	EYCYVNS	QQPS	HBA
200	SAGLTALALIIGVLILKWYSCKKKLSLSL	ITLANLPPGGLANAGAVRIRSEENI	YTIENNV	YEVENSN	EYCYVNS	QQPS	BALB/c

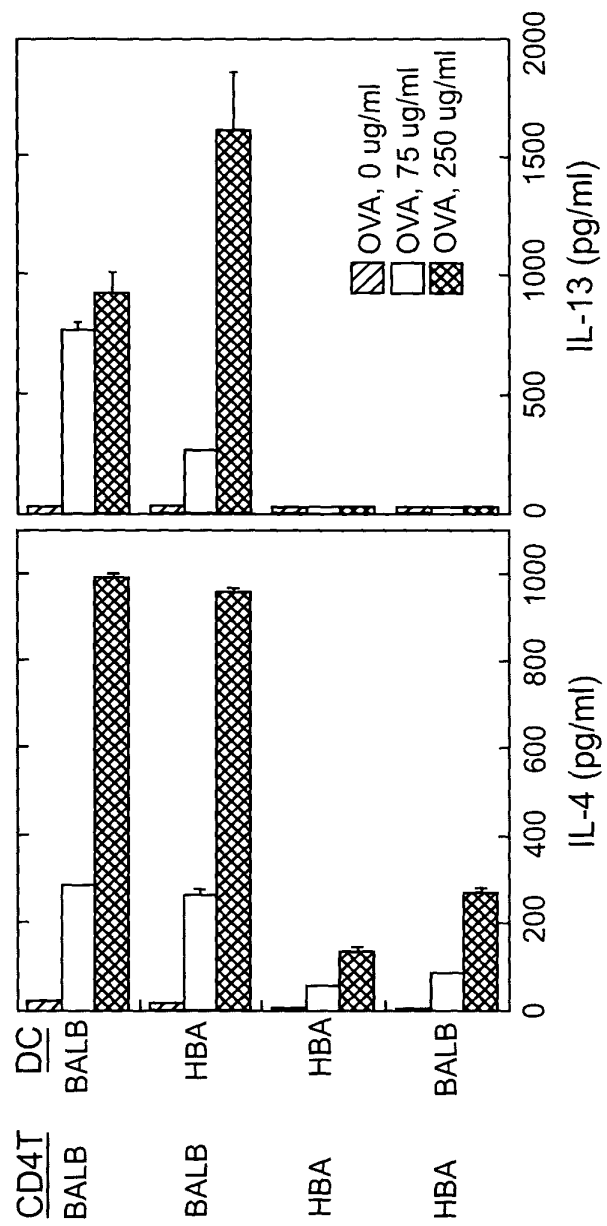


FIG. 6



## FIG. 7

	Signal	Immunoglobulin Domain	Mucin Domain	Mucin Domain	Transmembrane Domain	Cytoplasmic Domain
mtIM-2	---	---MNOIQVFISGILLPGAVES HTAVQGIAGHPVTLPCIYSTLGG-IVPMCWGBGRHSYCSIRSLIWTNGYVTHQRNRYQLKGNISEGVSLSTIENTVVGDDGGYCCVPIGAFH--FVDYMLEVVK	---	---	---	---
mtIM-1	---	---MNOIQVFISGILLPGCTVDS YVEVKCVVCHPVTLICTYSTYRG--ITTCWGRGQCPSSACQNTLIWTNGHRVTVYQKSSRYNLKGNISEGVSLSTIENTSVESDGLYCCRVIEPCWGFNDOKVTFSLQVQRP	---	---	---	---
htIM-1/ HAVcr-1	---	---MHFPQVWILSILHLADSVAG SVKVGGEAGFVTLPLCHYSCAVAT--SNCWNRGSCSLFTCOQNGIVTNGTHVTYRKDTRYKLLGLDS RROVSLTIENTAVSDSGVYCCRVHRGWFNDKMTITVSLEIVP	---	---	---	---
mtIM-3	---	---MFSGLTNCVLLLLQILLARS LENAYVFEVCKNAYLPCSYTLSTPGALVPWCWKGCFCPWSQCTNELLRITDERVTVYQKSSRYQLKGNLDKGVSLIKNVTLDDHGTGYCCRIQFPGFLMNDKKLELKLDIDKA	---	---	---	---
htIM-3	---	---MFSLHPFCVCLLLLLLLHTR SEVEYRAEVQCNAYLPCFYTPAAGNLVPVCWKGCAC PVFECGNVULTRDERDNNVYNTS--RYWLNGDFRKGDSVTLTADSGYICCYRIQIPIFCGINDEKFNKLVIKRP	---	---	---	---
mtIM-4	---	MSKGLLLMLVXELWMLYLPRA ASEDITIGELGQVTLPCHYLYLSWSQS--RNSMCWKGCSPNSCKNAELLRTDGTRIIRSKSTFYTLKGQVSEVSLTISNTNRGDSGVYCCRIEVPFGWFDNDVKKNVRLLELR	---	---	---	---
htIM-4	---	MSKEPLILMLIEFWMLYLPVTS ETVV TEVLGHRVTLPCLYSSWSHN--SNSMCWKGCQCPYSGCKEALIRTDGMRVTSRKSAYKRLQGTIPRGDVSLILNPESDSGVYCCRIEVPFGWFDNDVKINVRNLQQR	---	---	---	---
mtIM-2	---	---	---	---	---	---
mtIM-1	---	---	---	---	---	---
htIM-1/ HAVcr-1	---	---	---	---	---	---
mtIM-3	---	---	---	---	---	---
htIM-3	---	---	---	---	---	---
mtIM-4	---	---	---	---	---	---
htIM-4	---	---	---	---	---	---
mtIM-2	---	---	---	---	---	---
mtIM-1	---	---	---	---	---	---
htIM-1/ HAVcr-1	---	---	---	---	---	---
mtIM-3	---	---	---	---	---	---
htIM-3	---	---	---	---	---	---
mtIM-4	---	---	---	---	---	---
htIM-4	---	---	---	---	---	---
mtIM-2	---	---	---	---	---	---
mtIM-1	---	---	---	---	---	---
htIM-1/ HAVcr-1	---	---	---	---	---	---
mtIM-3	---	---	---	---	---	---
htIM-3	---	---	---	---	---	---
mtIM-4	---	---	---	---	---	---
htIM-4	---	---	---	---	---	---
mtIM-2	---	---	---	---	---	---
mtIM-1	---	---	---	---	---	---
htIM-1/ HAVcr-1	---	---	---	---	---	---
mtIM-3	---	---	---	---	---	---
htIM-3	---	---	---	---	---	---
mtIM-4	---	---	---	---	---	---
htIM-4	---	---	---	---	---	---
mtIM-2	---	---	---	---	---	---
mtIM-1	---	---	---	---	---	---
htIM-1/ HAVcr-1	---	---	---	---	---	---
mtIM-3	---	---	---	---	---	---
htIM-3	---	---	---	---	---	---
mtIM-4	---	---	---	---	---	---
htIM-4	---	---	---	---	---	---
mtIM-2	---	---	---	---	---	---
mtIM-1	---	---	---	---	---	---
htIM-1/ HAVcr-1	---	---	---	---	---	---
mtIM-3	---	---	---	---	---	---
htIM-3	---	---	---	---	---	---
mtIM-4	---	---	---	---	---	---
htIM-4	---	---	---	---	---	---

FIG. 8

		<u>Frequency</u>
NM_012206	MHPQVVILSLILHLADSVAGSVKVGGEAGPSVTLPCHYSGAVTSMCWNRGCSLFTCQNGI VWTNGTHV TYRKDTRY	
NM_012206	KLGDLSRRDVSLTIENTAVSDSGVYCCRVEHRGWFNDMKITVSLEIVP[P]KVTTTP I VTTVP[P]VTTTVRTSTTVPTTT	.05
		A
NM_012206	TVP-----TTTVPTTMS[P]PTTTTVPTTMTVSTTTTSVPPTTTSIP[P]TTSVPVTTTVSTFVPPMPLPRQNHEPVATSPS	.65
1	MTTTP	.05
2	A	.05
3	V	.40
4	A	.65
5	F	
NM_012206	SPQPAETHPTTLQGAIRREPTSSPLYSYTTDGN[P]DVTVESSDGLWNNNQTLFLEHSLLTANTT[P]KGIYAGVCISVLVL	.02
6		

FIG. 9

